

The Knowledge Bank at The Ohio State University

Ohio State Engineer

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The glass "yardstick" that can't tell a lie!

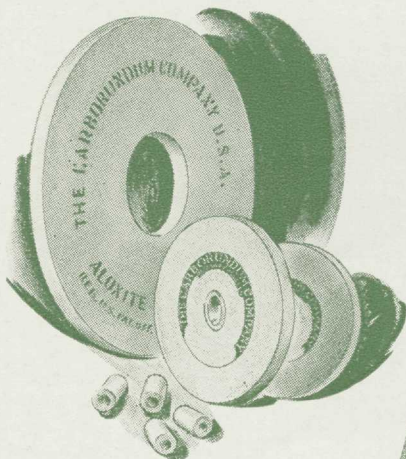


Now they're making precision gages, on which mass output of planes and other weapons depends, out of glass. Why glass? It saves strategic material. Can't rust or corrode. Is less affected by heat. Surface scratches or knicked edges don't impair its accuracy. Costs less. Lasts longer. And it can't tell a lie. If a glass gage is dropped, either it breaks or is as good as new; there is no unsuspected distortion.

To turn molded glass into a precision instrument requires careful, accurate grinding. Carborundum makes grinding wheels with which plug, ring and snap gages of glass are quickly ground to the required accuracy and finish. This latest use of grinding is another example of the increasing importance of abrasives in war production.



When you get out into industry, remember that Carborundum research and experience are at your disposal, ready to help you solve any abrasive problem you may encounter. The Carborundum Company, Niagara Falls, New York.





Campus News

RESEARCH AND ENGINEERING KEEP GENERAL ELECTRIC YEARS AHEAD



PAINTING THE FUSE RED

WHEN General Electric's automatic X-ray machine, developed to check the proper amount of powder in hand grenade fuses, "sees red" there's too little powder in the fuse, and the grenade might explode as soon as the soldier released his grip on its handle.

For checking, the fuses are set upright on a movable belt that passes through the machine. The perpendicular beam of a 100,000-volt X-ray penetrates each fuse and produces a glow on a fluorescent screen, above which is a phototube or "electric eye." As long as this glow remains constant, the fuse passes through untouched. But when a fuse with a light powder charge passes over the X-ray beam, the phototube detects the change in the glow, automatically rings a bell, flashes a red light, places a dab of red paint on the top of the fuse, and records the dud on a chart. This four-way check makes it impossible for a bad fuse to get by without detection.

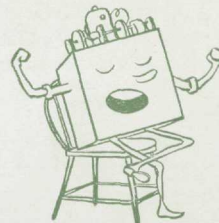
This machine, the first of its kind in the country, will automatically check 4000 fuses an hour.



SH-H-H

TO help make "all quiet" on the factory front—at least as much as possible—General Electric has developed a new sound-level meter that gives a quantitative measurement of sound.

Because man's nervous system is severely agitated if he is subjected to a sound above 120 decibels, the efficiency of factory workers is often lowered considerably by machinery noise. Highly sensitive, the instrument's range of 24 to 120 decibels covers the normal range of man's hearing and warns when the noise is harmful. Thus proper steps can be taken to reduce the sound.



YAWN PATROL

ON guard against over-fatigue of metals is the new electronic machine developed in our General Engineering Laboratory.

For metals, like human beings, get "tired" after a certain amount of work. One of the most important metallurgical tests is determining how much stress and strain certain metals can take under continuous vibration.

Energized by especially powerful electronic equipment, the new machine can vibrate a sample of metal back and forth about 10 million times in five hours—or in one-fourth to one-tenth the time previously required.

Hear the General Electric radio programs: "The G-E All-girl Orchestra" Sunday 10 p.m. EWT, NBC—
"The World Today" news, every weekday 6:45 p.m. EWT, CBS.

GENERAL ELECTRIC

953-74-211

192,000 employees of the General Electric Company are on their jobs producing war goods and buying over a million dollars of War Bonds every week to hasten victory.